

reference or to combine reference teachings." In the present case, it is respectfully submitted that the Quigley patent actually teaches away from the proposed modification set forth in the Office Action.

The background portion of the Quigley patent explains that the patent is directed to machine rolls that are designed to handle webs of material, such as paper and fabric (column 1, lines 13-15). A particular application of these types of rolls is the transfer of ink in a printing press (column 1, lines 20-21). The background portion goes on to discuss conventional steel rollers that were used for this purpose, pointing out that they had significant weight and were subject to vibration. The patent indicates that an object of the disclosed invention is to provide a machine roll "that has relatively low weight and that damps the vibration" (column 1, lines 58-65; see, also, column 1, lines 9-12).

To achieve these objectives, the patent discloses a roller sleeve having multiple layers. These layers include a hard, outer layer 14, 32, 44a, and an inner, damped body layer 12, 34, 44b. The patent discloses that the inner, damped body layer provides stiffness, rigidity, light weight and mechanical damping (column 2, lines 21-22). It discloses that preferred materials for this damped body layer are an epoxy resin and synthetic polymer fibers "having high mechanical damping." (column 3, lines 3-5)

The Office Action alleges that it would be obvious to select any known material for the inner body layer that is "capable of filling the intended use, function and purpose of the invention." In this regard, it refers to the concrete aggregate material disclosed in the Mirmiran et al patent. The Office Action does not establish,

however, that such concrete material would serve the intended purposes of the inner body layer of the Quigley machine roll.

As noted above, the Quigley patent discloses that the inner body layer should provide, among other properties, "light weight and mechanical damping." These two properties are directly related to the stated objective of the invention. The Office Action does not provide any reason why a person of ordinary skill in the art would employ concrete for such a purpose. In particular, the Office Action does not identify any teaching that concrete is considered to be a lightweight material, nor that it provides mechanical damping that would be appropriate for applications such as the transfer of ink in a printing press.

It is respectfully submitted that the Quigley patent is inappropriate as a reference in the present application, since it is directed to non-analogous art. As discussed throughout the application, the claimed subject matter is directed to a "structural member" that is used in structures such as bridges or buildings, and designed to withstand strong forces, even earthquakes. In such a context, the use of concrete is well known. In contrast, the Quigley patent is directed to an entirely different application, with different objectives. Specifically, it is directed to a "machine roll" that is especially designed for handling webs of paper or fabric in a printing press. The design objectives for such a machine roll are entirely different from a structural member that is intended to withstand the forces of nature. The Office Action has not established that the use of concrete in a machine roll would achieve any of those objectives.

For at least the foregoing reasons, therefore, it is respectfully submitted that it would not be obvious to modify the teachings of the Quigley patent to incorporate

concrete in a machine roll, as asserted in the Office Action. Accordingly, the references do not suggest the double-skin tubular structural member that is recited in claims 1 and 3-8.

Furthermore, it is respectfully submitted that the method of constructing such a tubular structural member, as recited in claims 9 and 11, is not suggested by the references. Claim 9 recites the step, among others, of "inserting a filler material between said outer tube and said inner tube." The Quigley patent does not disclose that its roller sleeve is constructed in such a manner. Rather, it discloses that each of the layers of the sleeve are successively built upon one another on a mandrel. See, for example, column 7, lines 58-64, and column 8, lines 53-54. Thus, the damped body layer 34 is not "inserted" between the inner and outer layers. Rather, it is built upon the inner layer, and the outer layer is then built upon the damped body layer.

For this additional reason, therefore, the method of claims 9 and 11 is not suggested by the references.

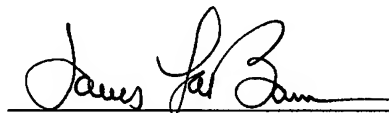
In view of the foregoing, it is respectfully submitted that all pending claims are patentably distinct from the Quigley patent, whether considered by itself or in view of the Mirmiran et al patent. Reconsideration and withdrawal of the rejection, and allowance of all pending claims is respectfully requested.

Respectfully submitted,

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